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B. GS 2 Related

Category: POLITY

1. **The controversy over the proposed Mokedatu water project**

Syllabus: Issues and challenges pertaining to the federal structure

Prelims: Mekedatu Project***Mains: Significance of the Mekedatu project and its associated issues.*****Context**

With the onset of summer, the stalemate over the Mekedatu project between Karnataka and Tamil Nadu has come into the limelight.

Mekedatu Project

- Mekedatu project is a drinking water and power generation project across river Cauvery.
- It was proposed initially in 1948 but the Karnataka government gave the project shape only after the final award by the Cauvery Water Disputes Tribunal in February 2013.
- The State went on to submit a detailed project report to the [Central Water Commission](#) in 2019 after a feasibility study.
- The proposed ₹9,000 crore project at Mekedatu on the Karnataka-Tamil Nadu border will have a capacity holding 67.15 tmc (thousand million cubic) ft. of water.

Read more about the [Mekedatu dam project and key issues surrounding it in the link.](#)

Significance of the project to Karnataka

- The Mekedatu project is expected to meet the water demand of Bengaluru for the next 30 years as currently, more than 30% of Bengaluru is dependent on borewell water.
- The water from Mekedatu would also benefit Ramanagara and Bengaluru rural districts.
- The project will also help in generating 400 MW of power.
 - The revenue earned from power generation is expected to compensate the Government for its investment in the project within a few years.

Karnataka's Stand

- Karnataka argues that the project will also assist in ensuring a monthly supply of the stipulated amount of water to Tamil Nadu.
- Karnataka argues that there is no case for Tamil Nadu after its share of 177.75 tmc ft. of water is ensured at the inter-State border gauging centre at Biligundlu.
- On utilising the surplus water, Karnataka says that the allocation in this regard should be done based on hydrological studies which help ascertain the quantum of excess water available in the basin.
- Karnataka says that since the project falls inside the jurisdictional limit of Karnataka, there is no need for Tamil Nadu's permission. And the State also argues that since there is no stay in any court against the project, Karnataka can go ahead.

Tamil Nadu's Arguments

- Tamil Nadu says that Karnataka, through the project, will hold and divert flows from "uncontrolled catchments".
- Tamil Nadu opined that Karnataka as an upper riparian state has sufficient infrastructure already in place to address the water requirements for Bengaluru and there is no need for the Mekedatu project.

- Tamil Nadu also says that Mokedatu does not find a mention in the Tribunal's final order or the Supreme Court judgement.
- Also considering the experiences of the past, Tamil Nadu is doubtful about the assurances given by the other state.

Also read: [Inter-State Water Disputes Tribunals in India](#)

Current status of the project

- The project is before the Cauvery Water Management Authority.
 - The Authority is exploring ways to come up with amicable solutions.
- Tamil Nadu has written to the Union government to withdraw the permission given to prepare the detailed project report (DPR).
- Tamil Nadu has also filed a petition before the Supreme Court, mentioning its objections against the project.
- The Union and Karnataka governments have also filed counter-affidavits.

Nut Graf

With the Tamil Nadu's Assembly passing a resolution against the Mokedatu project and Karnataka's assembly countering it with a resolution seeking for the speedy clearance and implementation of the project, both the states find themselves at loggerheads over the Mokedatu water project across the river Cauvery.

C. GS 3 Related

Category: ECONOMY

1. Exports cross \$400-bn annual target as goods shipments jump

Syllabus: Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.

Mains: The significance of the surge in merchandise exports and its role in the revival of the Indian economy.

Context

India's annual goods exports breached the \$400-billions mark.

Details

- India's merchandise exports crossed \$400 billion in the financial year 2021-22.
 - This is the highest ever and the previous record was \$330 billion which was achieved in 2018-19.
- India's annual exports have been boosted by the increase in shipments of merchandise; engineering products; apparel and garments; gems and jewellery; and petroleum products.
- The agriculture sector has also achieved its highest-ever export during 2021-22 due to the increase in the exports of rice, marine products, wheat, spices and sugar.
- The exports of Organic & Inorganic Chemical; Mica, Coal and Other Ores; Minerals Including Process, Engineering Goods and Plastic have also performed better than the expected targets.

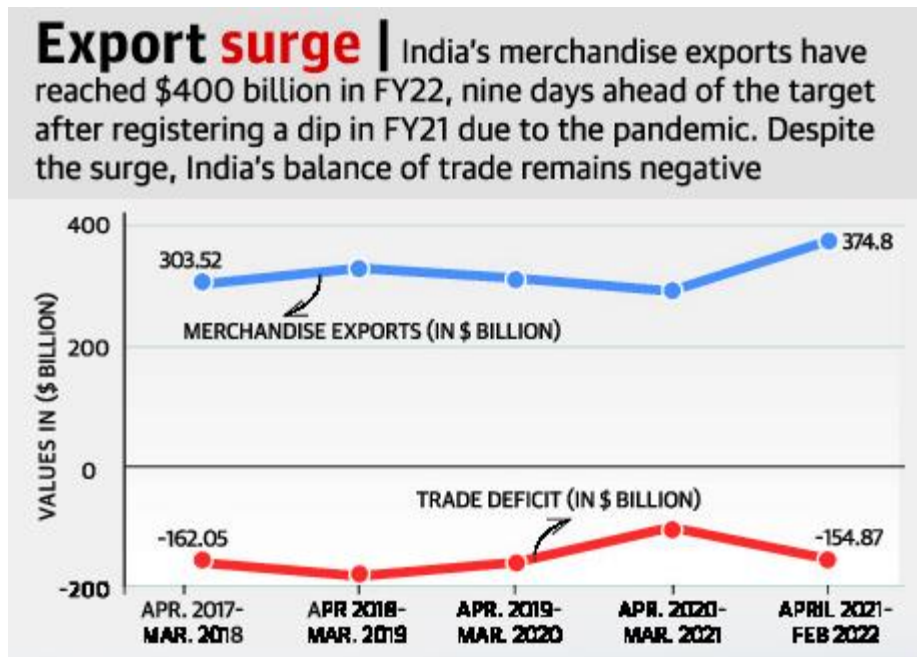


Image source: The Hindu

Government initiatives

- The government has provided a conducive environment and infrastructure for the industry and exporters to enhance their export performance.
- The successful implementation of [RoDTEP](#) and RoSCTL schemes despite the challenges posed by the pandemic also boosted the sector.
- The extension of the Interest Equalisation Scheme to exporters benefited a large number of MSME exporters.
- The government has undertaken various efforts to enhance domestic capacity and for deepening integration in the Global Value Chains.
- [PLI schemes](#) for 13 major sectors of manufacturing have been announced starting from FY 2021-22.
- Efforts also have been made to set up a strong backward and forward linkage, starting from the district level to the overseas market with the help of multiple stakeholders.

Significance of the achievement

- The increase in exports will strengthen India's position in the ongoing negotiations for [Free Trade Agreements \(FTAs\)](#) with several trade partners.
- Rising exports will help greatly in employment creation, especially in labour-intensive sectors.
- This also gives confidence to India to work with the rest of the world from a position of strength and also provides opportunities to explore new markets.

Nut Graf

India crossing an ambitious target of \$400 billion in goods exports, despite the challenges of the COVID-19 pandemic and the global uncertainties due to the Ukraine crisis, is a remarkable step towards achieving India's vision of "Aatmanirbhar Bharat".

Category: SCIENCE AND TECHNOLOGY

1. The Artemis programme, NASA's new moon mission

Syllabus: Awareness in the field of Space

Prelims: Artemis I Programme

Mains: The significance of the Artemis programme and its role in NASA's future endeavours.

Context

In March 2022, the National Aeronautics and Space Administration (NASA) unfolded its Artemis I moon mission.

Artemis I Programme

- It is an uncrewed space mission by NASA.
- It is the first of NASA's deep space exploration systems.
- The spacecraft will be launched through a **Space Launch System (SLS) rocket**, which is the most powerful rocket in the world.
 - The SLS rocket has been designed for space missions beyond low-earth orbit and can carry crew or cargo to the moon and beyond.
- During the mission, the spacecraft will travel around 2,80,000 miles from the earth for over six weeks.
- The spacecraft will consist of an **Orion capsule** which will remain in space without docking to a space station.
- The exercise aims to collect information and to allow mission controllers to assess the performance of the spacecraft.

Involvement of other space agencies

- **Canadian Space Agency** – will be providing advanced robotics for the gateway.
- **European Space Agency** – will provide the International Habitat and the ESPRIT module, which will deliver additional communications capabilities among other things.
- **Japan Aerospace Exploration Agency** – plans to provide habitation components and logistics resupply.

The mechanism of the project

- The SLS rocket and the Orion capsule under the Artemis I mission will be launched from the Kennedy Space Center in Florida, U.S.
- The spacecraft will deploy the interim cryogenic propulsion stage (ICPS), a liquid oxygen/liquid hydrogen-based propulsion system that will give Orion the thrust needed to leave the earth's orbit and travel towards the moon.
- The Orion capsule will be propelled by a service module provided by the European Space Agency (ESA).
- The spacecraft will communicate with the control centre on Earth via a deep-space network.
- It will fly around 100 km above the surface of the moon and use its gravitational pull to propel Orion into an opposite deep orbit around 70,000 km from the moon, where it will stay for approximately six days.
- Then the Orion will do a close flyby within less than 100 km of the moon's surface and use both the service module and the moon's gravity to accelerate back towards the earth.
- The mission will be completed as the spacecraft returns back to earth.

Importance of the programme

- With the Artemis programme, NASA aims to land humans on the moon by 2024.
- The mission will contribute largely to scientific discovery and economic benefits and inspire a new generation of explorers.
- NASA will set up an Artemis Base Camp on the surface and a gateway in lunar orbit which will help the explorations by robots and astronauts.
- The gateway will be a crucial component of NASA's sustainable lunar operations and will act as a multi-purpose outpost orbiting the moon.

Future missions

- The second project under the mission will have a crew on board and will test Orion's crucial systems with humans onboard.
- The information and inference from the Artemis programme will be used to send astronauts to Mars.
- NASA is using the lunar orbit to have the necessary information and experience to extend the human exploration of space.

Nut Graf

The Artemis I programme by NASA is touted to be a critical part of NASA's sustainable lunar operations and will play an important role in designing and implementing future space projects.

D. GS 4 Related

Nothing here for today!!!

E. Editorials

Category: ECONOMY

1. Global uncertainties, India's growth prospects

Syllabus: Indian Economy and issues relating to Planning, Mobilization of Resources, Growth, Development and Employment

Prelims: Difference between nominal and real GDP growth; Current Account Deficit and Fiscal deficit

Mains: Impact of the geopolitical uncertainties on the Indian economy

Context:

- The article co-authored by C. Rangarajan, former Chairman, Prime Minister's Economic Advisory Council examines how the normalization of the Indian economy in the post-pandemic phase could be disturbed by the geopolitical uncertainties brought out by the ongoing [Russia-Ukraine conflict](#).

Background:

Impact of the COVID-19 pandemic on the Indian economy:

- The pandemic and the consequent lockdowns adversely impacted the growth of the Indian economy. **Real GDP and GVA contracted by 6.6% and 4.8%, respectively for the 2020-21 fiscal year.**

- Though the National Statistical Office's (NSO) Second Advance Estimates (SAE) for 2021-22 notes that real GDP and GVA growth would grow by 8.9% and 8.3%, respectively, the absolute magnitude of real GDP in 2021-22 would only be marginally higher than the corresponding level of 2019-20.
- The NSO's data also highlights the huge gap between nominal GDP growth and real GDP growth due to **high inflation rates** in the economy.
- Despite an overall improvement in demand components of the economy, the growth of consumption and investment demand — as measured by **private final consumption expenditure (PFCE)** and **gross fixed capital formation (GFCF)** mark minuscule improvements in 2021-22 over 2019-20. This is indicative of **sluggish revival in domestic demand** and this remains a major concern for economic revival.
- The output in contact-intensive segments like trade, transport and construction sector have either been below the pre-pandemic levels or have registered only marginal improvements.
- The data of the NSO indicate both GDP and GVA showing **normalizing growth with waning base effects**. Without the low base effect, quarterly growth performance appears to be averaging at less than 5%.

Impact of the ongoing geopolitical conflict on India's economic recovery:

Rise in crude oil prices:

- Economic sanctions against Russia and boycott of Russian crude oil and natural gas would lead to a reduced global supply of these fuels. This mismatch in demand and supply will inevitably push their prices upwards. The **average Brent crude price has surged to U.S.\$123.21/bbl**.
- This steep rise in crude oil prices will have a marked impact on growth and inflation rates in India. It would **reduce real GDP growth and increase CPI inflation**. Going by the Reserve Bank of India (RBI)'s estimates (2021), even a nominal increase of U.S.\$25/bbl would lead to an estimated reduction in the growth of 0.7% points and an increase in inflation of nearly 1% point. The impact would be much larger if the margin of increase is enhanced.
- Sectors heavily dependent on petroleum products, such as fertilizers, iron and steel foundries, transportation, construction and coal, would be adversely affected.
- With increased prices of crude oil, there would be increases in some components of expenditures linked to prices of petroleum products, including petroleum and fertilizer subsidies. This could **drive the fiscal deficit above the budgeted levels**.
- Also, the rise in crude oil prices would lead to a **worsening of the current account balance due to higher import bills with a depreciating rupee**. There could be an increase in the current account deficit (CAD) by up to 1% of the GDP.

Disruption of global supply chains:

- The discontinuation of transactions through **SWIFT** would cause some degree of **disruption in trade to and from Russia**.
- Other economic challenges may include some **sectoral supply-side bottlenecks** and subsequent cost escalations leading to higher levels of inflation in the economy.

Impact of global uncertainties:

- The global uncertainties could lead to some adverse effects with regard to financial flows with **increased Foreign Portfolio Investment (FPI) outflows and falling Foreign Direct Investment (FDI)**.

Recommendations:

Bracing for the increased oil prices:

- The rise in the price of petroleum products and the need to distribute this burden of higher prices among consumers and industrial users, oil marketing companies and the Government would remain a challenging task indeed.
- The bearing of the tax burden only by OMCs would lead to increased expenditure on oil-linked subsidies driving fiscal deficit up. If the central and State governments reduce excise duty and value-added tax (VAT) on petroleum products, their tax revenues would be adversely affected. If the burden of higher prices is passed on to the consumers and industrial users, this could weaken investment and private consumption. The Government will have to strike an appropriate balance among these options.

Taming inflationary pressures:

- Given the increasing inflationary pressures, RBI may consider **raising the policy rates** to help tame inflationary pressures and also check the outward flow of the U.S. dollar from the Indian economy.

Supporting growth:

- The growth objective should be taken care of by **supportive fiscal policy initiatives** of the government. To revive economic growth in India, the government will have to **support consumption growth and reduce the cost of industrial inputs** with a view to improving capacity utilization.

Nut Graf

The ongoing Russia-Ukraine conflict and the geopolitical uncertainties caused by it will adversely impact the normalization of the Indian economy in the post-pandemic phase. Appropriate monetary and fiscal policy initiatives will be needed to overcome the impact and sustain the economic recovery.

2. Tracking the persistent growth of China

Syllabus: Planning, Mobilization of Resources, Growth, Development and Employment.

Mains: China's strategy in the manufacturing sector and learnings for India

Economic performance of China during the COVID-19 pandemic:

- In 2020 during the peak of the COVID-19 pandemic, when most economies were struggling, China was in a sense, able to sustain its impressive economic performance.
- China's gross domestic product grew by 2.2% in 2020 from the previous year. China's manufacturing output registered an increase from the previous year and stood at a staggering \$3.854 trillion. This growth in industrial production aided China's economy to grow by 8.1% in 2021.
- Most macroeconomic indicators including important ones like investment levels, retail sales registered improvements.

China's continued dominance in the manufacturing sector:

- There were predictions that the rising geopolitical tensions and trade wars along with the major learnings of the COVID-19 pandemic bringing to light the dangers of dependency on other countries for goods and services would result in factories moving out of China into newer locations.

- This prediction of ‘de-factorisation of China’ has not materialized. Notably, **China accounts for about 30% of global manufacturing** (equal to that of the United States, Japan and Germany put together). Also, China remains the **world’s biggest exporter, accounting for 13% of world exports** and 18% of world market capitalization in 2020-21.

China’s strategy in the manufacturing sector:

Idea of ‘dual circulation’:

- China’s strategy for its domestic manufacturing sector is based on **two types of circulation – internal and external circulation.**
- The internal circulation would include the domestic cycle of production, distribution and consumption while external circulation would include the manufacturing for exclusive exports to other economies. Notably, the two circuits are expected to complement each other.
- **China would place more importance on ‘internal circulation’ and this would constitute its major route for economic growth and development.** ‘External circulation’ would only play a supplemental role.
- The main theme of this strategy is that China would continue its emphasis on industrialisation and cut its dependence on global trade and markets.

Advanced Manufacturing:

- China is pushing industrialisation towards ‘advanced manufacturing’ and **higher levels of automation and digitization, and increased adoption of artificial intelligence (AI).** The increased role of robots and AI in manufacturing is slowly spreading to design, delivery and even marketing.
- This gives Chinese manufacturing predominance in growing high tech sectors that are less exposed to lower-cost competition. These high-tech production sectors provide for **increased reliability and product quality along with with cost-efficiency.**
- There seems to be a focussed approach to establishing Chinese dominance in the AI sector. Notably, China leads in the number of AI research publications.

Other measures being taken:

- Recognizing the criticality of a skilled labour force in economic development, China has placed high emphasis on **skilling its labour force.**
- China has been able to ensure continued and **sustainable supply of strategic raw materials** to its domestic industries by increasing domestic production as well as acquiring mines in other resource-rich countries.

Nut Graf

In the post-pandemic era, China is positioning itself to cause an unprecedented change in industrialisation through automation, digitization, and increased adoption of artificial intelligence (AI). The early mover advantage that China enjoys in this regard will help it remain the global manufacturing leader in the years to come.

F. Prelims Facts

Nothing here for today!!!

G. Tidbits

1. Centre begins process to amend IPC, CrPC

- The Union Government has started the process of amendments aimed at making comprehensive changes to laws such as the [Indian Penal Code](#), the Code of Criminal Procedure and the Indian Evidence Act.
- The Union Minister of State for Home said that a committee had been set up under the chairpersonship of the Vice Chancellor of National Law University, Delhi to suggest reforms in the criminal laws.

2. HC upholds charges against husband for raping wife

- The High Court of Karnataka upheld rape charges framed against a husband by a trial court for brutal sexual assault on his wife.
- The HC held that “the institution of marriage does not confer, cannot confer, and in my considered view, should not be construed to confer, any special male privilege or a licence for unleashing of a brutal beast.”
- The court also said that “the exemption of the husband on committal of such assault/rape, in the peculiar facts and circumstances of this case, cannot be absolute, as no exemption in law can be so absolute that it becomes a license for commission of crime against society.”
- **To know more about Marital Rape refer to: [31 Aug 2021: UPSC Exam CNA](#)**

H. UPSC Prelims Practice Questions

Q1. Lapsus\$ recently seen in news is a/an

- a. Virtual personal assistant
- b. Decentralized cryptocurrency
- c. Artificial intelligence tool that mimics the workings of a human brain
- d. Data extortion hacking group

Answer: d

Explanation:

- **Lapsus\$** is a **hacker group** that has recently targeted companies such as Microsoft, Samsung, Okta and Nvidia.
- South America-based **Lapsus\$** is known for publicly posting details about their hacks and sharing screenshots of stolen data on platforms such as Telegram and Twitter.

Q2. Consider the following statements:

1. Municipal corporations are established in the states by the acts of the state legislatures concerned, and in the union territories by the President.
2. The Notified area committee may be wholly elected or wholly nominated by the State government.

Which of the statements given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both

d. None

Answer: d

Explanation:

- **Statement 1 is not correct**, Municipal corporations are established in the states by the acts of the state legislatures concerned, and in the union territories by the acts of the Parliament of India and not the President.
- **Statement 2 is not correct**, Notified area committee is an **entirely nominated body**, wherein, all the members including the chairman are nominated by the state government.

Q3. Which of the following is/are the consequences of President's Rule?

1. The President can declare that the powers of the state legislature are to be exercised by the Union Cabinet.
2. A law made by the Parliament or President or any other specified authority continues to be operative even after the President's Rule.

Options:

- a. 1 only
- b. 2 only
- c. Both
- d. None

Answer: b

Explanation:

- **Statement 1 is not correct**, The President can declare that the powers of the state legislature are to be exercised by the **Parliament** and not by the Union Cabinet.
- **Statement 2 is correct**, a law made by the Parliament or President or any other specified authority continues to be operative even after the President's Rule. Such a law can be repealed or altered or re-enacted by the state legislature.

Q4. Which of the following statements with respect to Abel Prize is/are correct?

1. It is awarded to mathematicians not over 40 years of age at each International Congress of the International Mathematical Union.
2. It is awarded every four years.

Options:

- a. 1 only
- b. 2 only
- c. Both
- d. None

Answer: d

Explanation:

- **Statement 1 is not correct**, the **Fields Medal** is awarded to the most accomplished mathematicians who are 40 or younger every four years at the Congress of the International and not the **Abel Prize**.
- **Statement 2 is not correct**, the **Abel Prize** has been awarded **annually** since 2003.

Q5. With reference to India, consider the following statements:

1. When a prisoner makes out a sufficient case, parole cannot be denied to such prisoner because it becomes a matter of his/her right.
2. State Governments have their own Prisoners Release on Parole Rules.

Which of the statements given above is/are correct? [UPSC 2021]

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Answer: b

Explanation:

- **Statement 1 is not correct**, as parole is not a matter of right but a concession that may be provided by the state prison authorities.
- **Statement 2 is correct**, prison is a state subject and states frame their own prison rules.

I. UPSC Mains Practice Questions

1. Despite the surge in merchandise exports, India's balance of trade still remains negative. Identify the hurdles being faced in turning around India's balance of trade. (250 words; 15 marks)[GS-3, Economic Development]
2. It is time for India to focus on Artificial Intelligence if we want to remain in the race for becoming a superpower. Discuss.(250 words; 15 marks)[GS-3, Science & Technology]